



## **Process for the preparation of crystalline polycarbonate oligomers**

**Description of Technology:** This invention concerns a process for the preparation of semicrystalline polycarbonate oligomer compositions from amorphous polycarbonate oligomer compositions in the presence of i) a fugitive plasticizer which acts as a temporary crystallization-rate enhancing agent and/or ii) a particulate nucleating agent. The semicrystalline compositions produced are useful as starting materials for the production of high molecular weight polycarbonate by solid state polymerization.

### **Patent Listing:**

1. **US Patent No. 6,534,623**, Issued on March 18, 2003, "Process for the preparation of crystalline polycarbonate oligomers"

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&cs1=6,534,623.PN.&OS=PN/6,534,623&RS=PN/6,534,623>

**Market Potential:** High molecular weight polycarbonate is a valuable engineering resin useful for producing many objects, especially clear sheeting, compact recording discs and housings for electronic equipment. There are a number of ways this resin can be produced, but all of these methods of production have serious drawbacks associated with them.

It is well known that polycarbonate can be crystallized by exposure to solvents such as acetone. U.S. Pat. No. 5,214,073 discloses a method for preparing a porous crystallized polycarbonate oligomer or prepolymer. In one process described an amorphous polycarbonate oligomer is slurried with acetone to produce the crystallized polycarbonate oligomer. The large amorphous particles that are charged to the acetone bath break up into a very fine powder during the crystallization process. A second process described consists of the melt extrusion of the prepolymer melt into a stirred volume of acetone. This also produces a very fine crystallized powder. Both powders are dried before being subjected to the solid state polymerization. A very fine powder is often not desirable in solid state polymerization because of difficulties associated with material handling.

### **Benefits:**

- Does not produce a very fine powder
- Easier to handle

### **Applications:**

- Starting materials for the production of high molecular weight polycarbonate
- Clear sheeting, compact recording discs, and housing for electronic equipment

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